

CHAPTER 1

INTRODUCTION

This chapter is focusing on discussing about the background of the research, problem statement, objectives of the research, and scope of the research

1.1. BACKGROUND

Understanding Wudhu itself is to wash or wash all the members of a particular body with water before working on Shalat (Prayer and Shiva Sunnah), then According to Hanafiyah Understanding Wudhu is Purify ourselves using Water for 4 (four) members of our body that is Face, Second Hand, Head and both feet with special properties. Why Special Because in ablution itself there are at least 7 members of our body which must be purified by water which among others washing or purifying the mouth, nose, face, hands, hair, ears and feet.

Every Muslims in this world take wudhu 5 times per day to do shalat. Therefore, to do wudhu there are must have prefer place either private wudhu place (house) or public wudhu place. In Malaysia, public wudhu place can be found in mosque, musholla (small mosque), mall, school, and other public place. The mosque is the commonly place that we can find the various type of design for wudhu place. However, not every mosque wudhu place is comfortable to use. The comfortable criteria can be divided into several things: the distance between to pillar, the height of pillar from standing place, and flow of water. There are two type of doing wudhu, which are standing position and sitting position.[1]

Regarding to define of ergonomic is known as the science of improving the design workplace to better fit the human body and its movement. Every aspect of modern life now incorporates a degree of ergonomic design. Automotive interior parts, kitchen appliances, office furniture and other common equipment are ergonomic design. Even machines and tools for building and assembling these devices are great ergonomic designs. Maximizing efficiency and above all, user comfort and safety, and ergonomics continues make life become easier.

Regarding the method for designing the new ergonomic wudhu place, Quality Function Deployment (QFD) is the significant methodological to approach customer needs or requirements and then translating it into specific plans to produce the product that meet customer needs. QFD has been developed by Yoji Akao since 1966 in Japan. Then, by 1972 Mitsubishi Heavy Industries Kobe Shipyard have used this method well at the first time for the design of large ships.

Lastly, the Quality Function Deployment is the best methods that can be apply to find the best design of the ergonomic wudhu place because this method related to systems engineering process. By doing this method, hope can help the Muslims taking wudhu in comfort standing position.

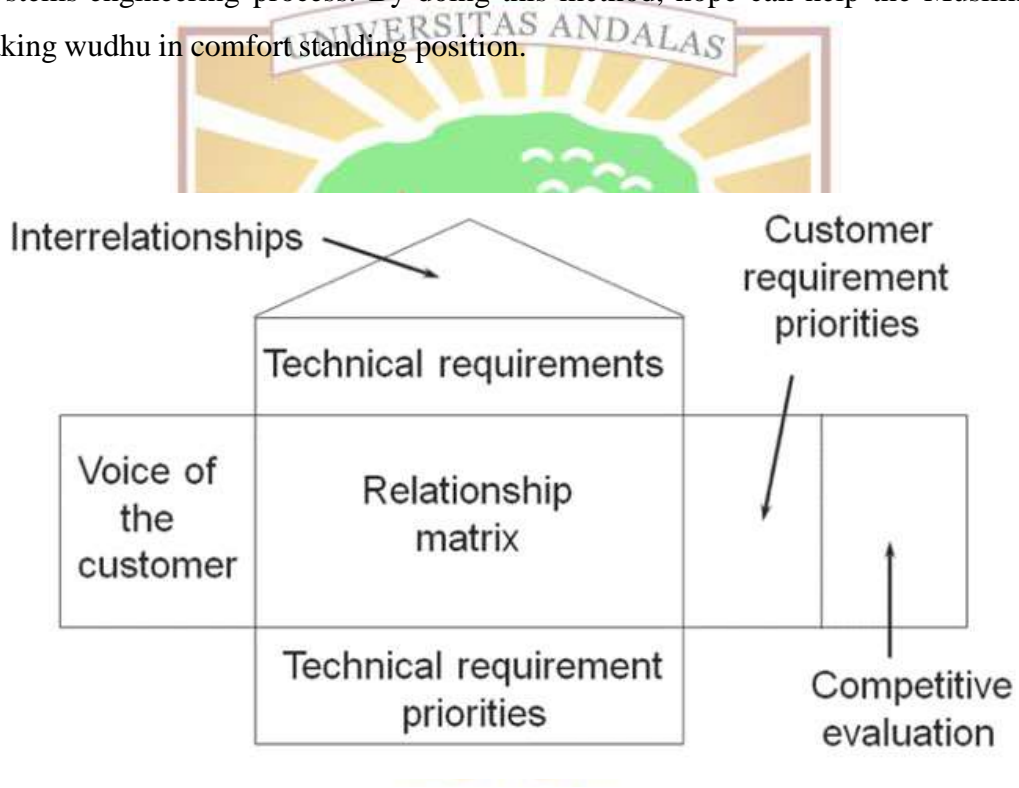


Figure 1.1: Example of House of Quality (HoQ)
 Source: <https://melsatar.blog/2016/12/07/quality-function-deployment/>

1.2 PROBLEM STATEMENT

The problem involved in this research study are the design of the wudhu place is not ergonomic. These problems arise when Muslims feel uncomfortable during wudhu cause from several factor of the wudhu place design in standing position. The existed design of the wudhu place at mosque or small mosque is not in standard and best measurement due to many customer outside there only thinking about want their wudhu place look beautiful and cheap cost. During wudhu at standing position, people have maintained their balance by hold the pillar due to the different of floor height and this issue can cause many problems during wudhu. Besides that, the distance between two valves sometimes is not friendly and can cause an uncomfortable condition during doing wudhu. Other than that, the problem is also about the width of pillar that cause the water that come out from pillar is not straight fall down into drain and it will make people wet during taking wudhu. Therefore, by using the Quality Function Deployment (QFD) method can help to solve this entire problem by redesign the existing wudhu place into a better and an ergonomic design.

1.3 OBJECTIVE

Overall, the proposed research research is to design a new ergonomic wudhu with more enhance and ergonomic properties. This research represents 3 main objectives includes:

- 1) To collect the “Voice of Customer” (VoC) in way to find what the customer requirement for the ergonomic wudhu place.
- 2) To develop the “House of Quality” (HoQ) in way to find the best result for ergonomic design.
- 3) To standardize design an ergonomic wudhu place that can provide a comfortable standing position during wudhu.

1.4 SCOPE OF THE RESEARCH

The scopes of this research can be summarized as follows:

- 1) Find a suitable method to design a new ergonomic wudhu place that can provide more comfortable standing position during taking wudhu.
- 2) The research aim to find the best design of ergonomic wudhu place that have at mosque which cover the height of tap from standing floor, distance between two tap and distance of tap from wall.

